

Remarks

1. Summary of Office Action

In the office action mailed December 16, 2005, the Examiner rejected claims 1, 2, 4-7, 9-14 and 16-18 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,781,980 (Dajer). The Examiner rejected claim 3 under 35 U.S.C. § 103(a) as being unpatentable over Dajer in view of U.S. Patent Application Pub. No. 2002/0191676 (Kenneth). The Examiner rejected claims 8 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Dajer in view of U.S. Patent Application Pub. No. 2005/0215245 (Tran).

2. Status of the Claims

As shown above, Applicant has amended claims 5 and 14 to recite elements of claims 7 and 17 respectively (and to change “control information” to “modulation frequency” and “power level”). Therefore, Applicant has cancelled claims 7 and 17. Now pending in this application are claims 1-18, of which claims 1, 5, 9, 11, 14 and 18 are independent and the remainder are dependent.

3. Claimed Invention

The present invention is directed to a wireless network that may include a digital base station and a radio link converter unit. The digital base station may receive bearer data for each of a plurality of channels, establish control information for each of the plurality of channels, and output a digital signal that defines the bearer data and the control information to the radio link converter unit. The radio link converter unit may then receive the digital signal and extract from the control information a power level for each of the plurality of channels and a modulation frequency. Based on the power level and the modulation frequency, the radio link converter unit

may then responsively generate an analog signal having a plurality of analog channels that defines the bearer data in the digital signal. The radio link converter may then output the analog signal to an antenna for transmission to a wireless terminal.

The independent claims recite aspects of this arrangement in various ways. For instance, claims 1, 9, 11 and 18 recite (i) receiving a digital signal that defines bearer data for each of a plurality of channels, and control information for each of the plurality of channels, (ii) parsing from the control information, a power level and a modulation frequency, the power level being one of a plurality of possible power levels and the modulation frequency being one of a plurality of possible modulation frequencies, and (iii) transmitting an analog signal to at least one wireless terminal. And, claims 1, 9 and 18 also recite based on the power level and the modulation frequency, responsively generating an analog signal having a plurality of analog channels that defines the bearer data in the digital signal.

Further, claims 5 and 14 recite (i) receiving, from a first network entity, bearer data for a plurality of channels, (ii) establishing a modulation frequency for an analog signal that is to define the bearer data for the plurality of channels, and a power level for each channel of bearer data, (iii) outputting to a second network entity, a digital signal defining the bearer data, the modulation frequency, and the power level, wherein outputting the bearer data, the modulation frequency, and the power level comprises outputting to the second network entity a frame defining the bearer data, the modulation frequency, and the power level.

4. Response to § 102 Rejections

As noted above, the Examiner rejected claims 1, 2, 4-7, 9-14, and 16-18 as being by anticipated by Dajer. Applicant respectfully traverses this rejection. Under M.P.E.P. § 2131, a claim is anticipated only if each and every element as set forth in the claim is found, either

expressly or inherently described, in a single prior art reference. Applicant respectfully traverses the rejection of claims 1, 2, 4-7, 9-14, and 16-18, because Dajer does not disclose or suggest each and every element of any of these claims.

a. Claims 1-2, 4, 9-10 and 11-13

Of these claims, claims 1, 9 and 11 are independent. Dajer fails to anticipate the elements of claims 1, 9 and 11. In particular, Dajer fails to teach the combination of (i) receiving a digital signal that defines bearer data for each of a plurality of channels, and control information for each of the plurality of channels, (ii) parsing from the control information a power level and a modulation frequency, the power level being one of a plurality of possible power levels and the modulation frequency being one of a plurality of possible modulation frequencies, and (iii) based on the power level and the modulation frequency, responsively generating an analog signal having a plurality of analog channels that defines the bearer data in the digital signal.

At best, Dajer teaches that a radio frequency (RF) modulation section receives processed signals from a digital signal processing block (column 1, lines 47-49). Dajer further teaches modulating an RF carrier signal with the processed signals in a multiplier (column 1, lines 49-51). Also, Dajer teaches that a D/A converter 206 converts a digital bit stream of the processed signals to analog signals used to amplitude or frequency modulate the RF carrier signal (column 1, lines 51-54).

However, Dajer does not teach receiving a digital signal that defines both bearer data and control information. Consequently, Dajer does not teach parsing a power level and a modulation frequency from the control information that is defined by the received digital signal. Moreover,

Dajer does not teach generating an analog signal that defines the bearer data in the digital signal based on the power level and the modulation frequency.

Because Dajer fails to teach the invention as recited in claims 1, 9 and 11, Dajer fails to anticipate claims 1, 9 and 11 under 35 U.S.C. § 102(b). Therefore, Applicant submits claims 1, 9 and 11 are allowable.

Claims 2, 4, 10 and 12-13 depend from claims 1, 9 and 11. Thus, Applicant submits that claims 2, 4, 10 and 12-13 are allowable for at least the reason that they depend from allowable claims 1, 9 and 11.

b. Claims 5-8, 14 and 16-17

Of these claims, claims 5 and 14 are independent. Applicant has amended claims 5 and 14 to recite the function of outputting to a second network entity a frame defining (i) the bearer data, (ii) the modulation frequency, and (iii) the power level as was similarly recited in claims 7 and 17 (with “modulation frequency” and “power level” in place of “control information”).

In rejecting claims 7 and 17, the Examiner stated that Dajer teaches the function of outputting to a second network entity a frame defining (i) the bearer data, and (ii) the control information. However, Dajer fails to teach the function of outputting to a second network entity a frame defining (i) the bearer data, (ii) the modulation frequency, and (iii) the power level. In particular, Dajer fails to teach outputting any kind of a frame to a second network entity.

Because Dajer fails to teach the invention as recited in claims 5 and 14, Dajer fails to anticipate claims 5 and 14 under 35 U.S.C. § 102(b). Therefore, Applicant submits claims 5 and 14 are allowable.

Claims 6-7 and 16-17 depend from claims 5 and 14. Thus, Applicant submits that claims 6-7 and 16-17 are allowable for at least the reason that they depend from allowable claims 5 and 14.

c. Claim 18

Claim 18 recites a system comprising a digital base station communicatively coupled to a radio link converter unit. The radio link converter unit is arranged (i) to receive a digital signal that defines bearer data for each of a plurality of channels, and control information for each of the plurality of channels, (ii) to parse from the control information a power level and a modulation frequency, the power level being one of a plurality of possible power levels and the modulation frequency being one of a plurality of possible modulation frequencies, (iii) based on the power level and the modulation frequency, to responsively generate an analog signal having a plurality of analog channels that defines the bearer data in the digital signal, and (iv) to transmit the analog signal to at least one wireless terminal.

As described above, Dajer fails to teach the elements of (i) receiving a digital signal that defines bearer data for each of a plurality of channels, and control information for each of the plurality of channels, (ii) parsing from the control information a power level and a modulation frequency, the power level being one of a plurality of possible power levels and the modulation frequency being one of a plurality of possible modulation frequencies, and (iii) based on the power level and the modulation frequency, responsively generating an analog signal having a plurality of analog channels that defines the bearer data in the digital signal.

Further, Dajer fails to teach a system comprising a digital base station that is communicatively coupled to a radio link converter unit. Instead, Dajer teaches that a base station is in communication with remote users through an air interface (column 1, lines 29-31). Dajer

further teaches that the base station transmits an analog signal via the interface to remote users (column 1, lines 57-61).

In contrast, claim 18 recites that a digital base station is communicatively coupled to a radio link converter unit. The radio link converter unit is then communicatively coupled to a wireless terminal through an air interface. Thus, the radio link converter unit, rather than the base station, transmits an analog signal to a wireless terminal via an air interface.

Because Dajer fails to teach the invention as recited in claim 18, Dajer fails to anticipate claim 18 under 35 U.S.C. § 102(b). Therefore, Applicant submits that claim 18 is allowable.

5. Response to § 103 Rejections

a. Claim 3

The Examiner next rejected claim 3 as being unpatentable over Dajer in view of Kenneth.

Claim 3 depends from claim 1 and incorporates all of the limitations of claim 1. Consequently, Applicant submits that claim 3 is allowable for at least the same reasons that claim 1 is allowable.

b. Claims 8 and 15

The Examiner next rejected claims 8 and 15 as being unpatentable over Dajer in view of Tran.

Claim 8 depends from claim 5, and incorporates all of the limitations of claim 5. Claim 15 depends from claim 14, and incorporates all of the limitations of claim 14. Consequently, Applicant submits that claims 8 and 15 are allowable for at least the same reasons that claims 5 and 14 are allowable.

6. Conclusion

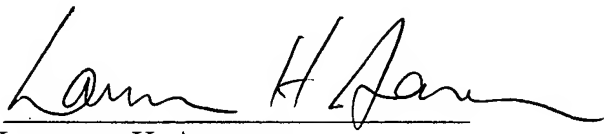
For the foregoing reasons, Applicant submits that all of the pending claims 1-18 are in condition for allowance. Therefore, Applicant respectfully requests favorable reconsideration and allowance of the pending claims.

Should the Examiner wish to discuss any aspect of this case with the undersigned, the Examiner is invited to call the undersigned at (312) 913-2141.

Respectfully submitted,

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